

Application No. 10/822,642

REMARKS

Claims 12-20, 22-26 and 28-38 are pending. Claims 12-19 are withdrawn from consideration. By this Amendment, claims 1-11, 21, and 27 are cancelled, and claims 20 and 22-26 are amended. New claims 28-38 have been added.

Claims 20 and 24 are amended to more particularly point out Applicants' claimed invention. The amendment of claim 20 is supported by claims 21 and 27, as filed, and in the specification, for example, at page 5, lines 2-14 and at page 9, lines 18-28. The amendment of claim 24 is supported in the specification, for example, at page 56, lines 10-16. Claims 22-23 are amended to depend from claim 20 in view of the cancellation of claim 21, and the amendments of claims 25-26 correct the antecedent references in the claims. No new matter is introduced by the amendments.

New claims 28 and 38 are supported in the specification, for example, at page 6, line 9 - page 7, line 5. New claims 29 and 30 are supported in the specification, for example, at page 36, line 25 - page 37, line 7. New claim 31 is supported in the specification, for example, at page 53, line 23 - page 54, line 4. New claims 32-34 are supported in the specification, for example, at page 56, lines 10-16. New claim 35 is supported in the specification, for example, at page 9, lines 18-28. New claim 36 is supported in the specification, for example, at page 12, lines 17-20. New claim 37 is supported in the specification, for example, at page 72, lines 12-20. No new matter is introduced by the new claims.

All pending claims stand rejected. Applicants respectfully request reconsideration of the rejection based on the following comments.

Election of Species Requirement

The Examiner imposed an election of species requirement within three species groups (Group A, claims 1-11; Group B, claims 12-19; Group C, claims 20-27). Applicants

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confirm their election of Species Group C (claims 20-27) with traverse. In view of the restriction requirement, Applicants have cancelled claims 1-11 without prejudice.

A restriction requirement is not proper if the search and examination of an entire application can be made without serious burden. See, e.g., MPEP § 803 ("If the search and examination of an entire application can be made without serious burden, the examiner must examine it on the merits, even though it includes claims to independent or distinct inventions."), emphasis added. If the classification for distinct claims is the same, the field of search is the same, and there is no clear indication of separate future classification and field of search, then there is no reason to divide among related inventions. MPEP § 808.02 ("Where, however, the classification is the same and the field of search is the same and there is no clear indication of separate future classification and field of search, no reasons exist for dividing among related inventions.") In the present case, the Examiner can examine claims 12-27 without significant burden and all of the claims in Groups B and C are expected to be in the same classification due to the related nature of the subject matter. As such, Applicants respectfully request withdrawal of the Examiner's election of species requirement with respect to the claims in Groups B and C.

Claim Objection

The Examiner objected to claims 21-23 for failing to further limit the subject matter of claim 20. Specifically, the Examiner stated that claim 20 requires an insert including a coating and that claim 21 requires placing a coating on the insert. The Examiner asserted that the insert of claim 21 therefore can include an insert with or without a coating. To advance prosecution of the application, Applicants have amended claim 20 by incorporating the features of claim 21 and clarifying the claim terminology of the insert before and during forming the coating ("insert") and after forming the coating ("coated insert"). In view of these clarifications, Applicants respectfully request withdrawal of the objection to claims 21-23.

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Rejection under 35 U.S.C. § 112, Second Paragraph

The Examiner rejected claims 24-26 under 35 U.S.C. § 112, second paragraph. Specifically, the Examiner asserted that the phrases "the rod" and "primary particle" lacked antecedent basis. Applicants thank the Examiner for a careful reading of the claims. Applicants have amended claims 24-26 to correct the antecedent basis of "the rod" and "primary particle." In view of the corrections, Applicants respectfully request withdrawal of the rejection of claims 24-26 under 35 U.S.C. § 112, second paragraph.

The Examiner rejected claims 27 under 35 U.S.C. § 112, second paragraph. Specifically, the Examiner asserted that he is unaware of any reason for having "rare earth metal" in optical fibers and that one of ordinary skill would not be able to determine the scope of "rare earth metal" as the term is used in the claims. The features of claim 27 have been incorporated into claim 20. However, although the objection of claim 27 is moot in view of the amendment of claim 20, Applicants respectfully assert that one of ordinary skill would be able to determine the scope of "rare earth metal" as the term is used in the claims.

Applicants thank the Examiner for pointing out any uncertainty in the scope of claim 27. However, as taught in the specification, metals, and therefore rare earth metals, can refer to a metal element in any available oxidation state. See, for example, page 23, lines 14-24. As such, "rare earth metal" as used herein means a rare earth metal with any oxidation state, i.e., rare earth metals having zero oxidation as well as rare earth metals having non-zero oxidation states, such as found in rare earth metal oxides. Based on the foregoing, in view of the specification, one of ordinary skill would be able to determine the scope of "rare earth metal" as the term is used in the claims.

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Rejection Over Hicks under 35 U.S.C. § 102

The Examiner rejected claims 20, 24, and 26 under 35 U.S.C. § 102 as being anticipated by U.S. Patent No. 4,749,396 to Hicks, Jr. (Hicks). Specifically, the Examiner has asserted that Hicks teaches all of the features of Applicants' claimed invention. To advance prosecution of the case, Applicants have amended claim 20 to clarify the scope of their invention and include the features of original claim 21. In view of the amendment, Hicks does not prima facie anticipate claims 20, 24, and 26. Accordingly, Applicants respectfully request reconsideration of the rejection under 35 U.S.C. § 102 based on the following comments.

Hicks does not teach or suggest forming a powder coating on an insert in a flowing reactor by placing the un-coated insert in a product stream of the flowing reactor. Specifically, Hicks teaches using chemical vapor deposition (CVD), which does not involve a reactive flow as claimed by Applicants. Since Hicks does not teach all of the features of Applicants' claims, Hicks does not disclose Applicants' claimed invention. Applicants respectfully request the withdrawal of the rejection of claims 20, 24, and 26 under 35 U.S.C. § 102 as being anticipated by Hicks. In view of the amendment, Applicants do not comment further on issues relating to the dependent claims, although Applicants do not acquiesce in the Examiner's assertions regarding these claims.

Rejection Over Hicks, Sarkar, Miller, and Schultz under 35 U.S.C. § 103(a)

The Examiner rejected claims 20 and 24-26 under 35 U.S.C. § 103(a) as being unpatentable over Hicks in view of U.S. Patent No. 4,599,098 to Sarkar (Sarkar), U.S. Patent No. 4,501,602 to Miller et al. (Miller), and optionally U.S. Patent No. 4,263,031 to Schultz (Schultz). To advance prosecution of the case, Applicants have amended claim 20 to clarify the scope of their invention and include the features of claims 21 and 27. Applicants respectfully request reconsideration of the rejection in view of the following comments.

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"To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure." MPEP § 2142 (citing In re Vaack, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991)).

The Examiner has not established a prima facie case of obviousness of Applicants' claimed invention since the cited reference does not teach or suggest all of the features included in claim 20, as amended. Prima facie obviousness is not established if all the elements of the rejected claim are not disclosed or suggested in the cited art. In re Ochiai, 37 USPQ 1127, 1131 (Fed. Cir. 1995). ("The test for obviousness *vel non* is statutory. It requires that one compare the claim's 'subject matter as a whole' with the prior art 'to which said subject matter pertains.'"). See also, MPEP § 2143.03 "All Claim Limitations Must Be Taught or Suggested," citing In re Royka, 180 USPQ 580 (CCPA 1974). "To establish prima facie obviousness of a claimed invention, all of the claim limitations must be taught or suggested by the prior art." MPEP § 2143.03.

As stated above, Hicks does not teach or suggest forming a powder coating on an insert by placing the insert in a product stream of a flowing reactor. Nor does Hicks teach or suggest forming a powder coating of rare earth metal particles. Sarkar, Miller, or Schultz individually or in combination do not make up for the deficiencies of Hicks. Specifically, none of the references teach or suggest forming a powder coating on an insert in a flowing reactor or forming a powder coating of rare earth metal particles. As such, even assuming that the cited references were combinable, the combined references do not teach or suggest all of the features

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included in claim 20. In view of the discussion above, Applicants do not comment further here on the suitability of combining the references.

With respect to specific features noted by the Examiner in the claims depending from claim 20, these issues are not commented on further here because they are presently moot given the above analysis, although Applicants do not acquiesce in the Examiner's position. See MPEP § 2143.03 ("If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious.") As such, Applicants respectfully request withdrawal of the rejection of claims 20 and 24-26 as being unpatentable over Hicks in view of Sarkar, Miller, and optionally Schultz.

Rejection Over Tanaka, Sarkar, Miller, and Schultz under 35 U.S.C. § 103(a)

The Examiner rejected claims 20 and 24-27 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,474,588 to Tanaka et al. (Tanaka) in view of Sarkar, Miller, and optionally Schultz. To advance prosecution of the case, Applicants have amended claim 20 to clarify the scope of their invention and include the features of claims 21 and 27. As noted below, the combined teachings of the cited references do not render Applicants' claimed invention *prima facie* obvious. Applicants respectfully request reconsideration of the rejection in view of the following comments.

Tanaka does not teach or suggest forming a powder coating of rare earth metal particles on an insert in a flowing reactor by placing the insert in a product stream of the flowing reactor as required by claim 20, as amended. Rather, Tanaka teaches using a vapor phase axial deposition (VAD) process to deposit soot formed of SiO₂ particles on a lower end of a glass seed rod. Moreover, while Tanaka does teach doping with rare earth metals, e.g., erbium, Tanaka teaches only using a conventional soaking method to impregnate rare earth metals into the a preform, i.e., by soaking the preform in a solution containing the erbium compound after

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the SiO₂ soot is deposited on the rod (col. 5, lines 31-51). On the other hand, claim 20 requires a forming a rare earth metal coating on an insert by placing the insert in a product stream of a flowing reactor. As stated above, Sarkar, Miller, and Schultz do not teach or suggest forming a powder coating on an insert in a flowing reactor or forming a powder coating of rare earth metal particles and therefore do not make up for the deficiencies of Tanaka. As such, the combined teachings of the cited references do not established a *prima facie* case of obviousness of Applicants' claimed invention since the cited references alone or combined do not teach or suggest all of the features included in claim 20.

With respect to specific features noted by the Examiner in the claims depending from claim 20, these issues are not commented on further here because they are presently moot given the above analysis, although Applicants do not acquiesce in the Examiner's position. See MPEP § 2143.03 ("If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious.") As such, Applicants respectfully request withdrawal of the rejection of claims 20 and 24-27 as being unpatentable over Tanaka in view of Sarkar, Miller, and optionally Schultz.

New Claims

Independent claim 31 and the claims depending therefrom have been added. None of the references alone or combined cited by the Examiner teach, suggest or motivate a method for forming an optical fiber preform, the method comprising inserting a coated insert within a glass preform structure, the coated insert comprising a powder coating that was formed in a flowing reactor by placing an insert in a product stream of the flowing reactor, wherein the flowing reactor is driven by a light beam intersecting a reactant stream at a reaction zone at which the product stream is generated, as required by claim 31. As such, Applicants respectfully

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request favorable consideration and prompt allowance of the new claim 31 and the claims depending therefrom.

Conclusions

In view of the foregoing, it is submitted that this application is in condition for allowance. Favorable consideration and prompt allowance of the application are respectfully requested.

The Examiner is invited to telephone the undersigned if the Examiner believes it would be useful to advance prosecution.

Respectfully submitted,



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